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Policy Research

WORKING PAPERS

Abstracts

September 1993

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1163. Domestic Distortions and International Trade

James E. Anderson and J. Peter Neary
(July 1993)

The Trade Restrictiveness Index provides a theoretically consistent and empirically feasible framework for investigating the trade implications of such domestic distortions as production taxes and subsidies.

Trade is affected not only by taxes and subsidies that affect producers and consumers of goods, but also, indirectly, by taxes and subsidies that affect nontraded goods or factors of production.

Anderson and Neary show how the Trade Restrictiveness Index (TRI) may be extended to incorporate these types of distortions. Again, the value of the TRI gives the equiproportionate change in the prices of *traded* goods, which would compensate for a given change in all distortions, both in traded and nontraded goods and in factor markets.

Anderson and Neary, who developed the theory of the TRI, show how to apply it in practice, drawing on a larger study by Anderson and Bannister of changes in Mexican agricultural policy between 1985 and 1989. Adapting the TRI to a partial equilibrium context allows existing estimates of key demand and supply elasticities to be incorporated into the Index; and the basic formula is adapted to take account of some special features of Mexican agricultural markets.

The TRI shows a great increase in restrictiveness in 1986 and especially 1987, followed by major reductions in restrictiveness in 1988 and 1989. The cumulative effect: a 49.9 percent fall in trade restrictiveness over the four years.

The major, although not the only, source of changes in trade restrictiveness were changes in producer subsidies, especially for maize. These trends are not captured by changes in indices for consumer and producer subsidy equivalents, which the authors also present. Indeed, in a number of years at least one of the ad hoc indices changed in the opposite direction to the change in the corresponding welfare-based index.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in the department to measure the effects of protection policy. The study was funded by the Bank's Research Support Budget under research project "The Cost of Protection Index" (RPO 676-49). Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Dawn Gustafson, room S7-044, extension 33714 (30 pages).

1164. Power, Distortions, Revolt, and Reform in Agricultural Land Relations

Hans P. Binswanger, Klaus Deininger, and Gershon Feder
(July 1993)

If the efficiency of the large commercial farm is a myth, why do markets for the rental and sale of agricultural land rarely reallocate land to the most efficient uses and users (family farmers)?

Most work on the relationship between farm size and productivity strongly suggests that farms that rely mostly on family labor are more productive than large farms operated primarily by hired labor.

This study began as an inquiry into how rental and sales markets for agricultural land in the developing world affect efficiency and equity. What emerged was the clear sense that great variations in land relations around the world and over time cannot be understood in the common paradigm of property rights and competitive markets. Under that paradigm, land scarcity leads to better definition of rights, which are then traded in sales and rental markets accessible equally to all players. The outcome should be the allocation of land to the most efficient uses and users, yet this rarely happens.

Instead, land rights and ownership tend to grow out of power relationships. Landowning groups have used coercion and distortions in land, labor, credit, and commodity markets to extract economic rents from the land, from peasants and workers, and most recently from urban consumer groups or taxpayers. Such rent-seeking activities reduce the efficiency of resource use, retard growth, and increase the poverty of the rural population.

Binswanger, Deininger, and Feder examine how these power relations emerged and what legal means enabled relatively few landowners to accumulate and hold on to large landholdings. They discuss the successes and failures of reform in market and socialist economies, and the perversions of reforms in both systems, manifested in large commercial farms and collectives.

They survey the history of land relations and the legacies that history leaves. They discuss the three analytical controversies surrounding economies of scale, and the efficiency of the land sales and land rental market.

They discuss the main policy issues and implications of various distortions and successful and unsuccessful reforms in the developing world, including land registration and titling, land taxation, regulations restricting land sales and rentals, fragmentation and consolidation of land, redistributive land reform, and decollectivization.

In an epilogue on methodology, they examine how various strands of economic theory have contributed, or failed to contribute, to the explanation of variations in policies, distortions, and land relations over space and time.

This paper — a product of the Advisory Group, Latin America and the Caribbean Technical Department and the Agricultural Policies Division, Agriculture and Rural Development Department — was prepared for the *Handbook of Development Economics,* Volume II, edited by Jere Behrman and T. N. Srinivasan. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Hans Binswanger, room I4-021, extension 31871 (121 pages).

1165. Social Costs of the Transition to Capitalism: Poland, 1990-91

Branko Milanovic
(August 1993)

Contrary to expectations, Poland's stabilization program entailed unexpectedly high social costs. Unemployment reached 12 percent by the end of 1991, and real incomes fell 40 percent. The poverty gap rose from an estimated 1.4 percent of GDP to 4.8 percent.

The Polish stabilization program implemented in 1990 as part of the transition to capitalism entailed unexpectedly high social costs.

The often unstated assumption had been that since central planning was intrinsically inefficient, stabilization in Poland might be less costly in terms of lost output than it would have been in a market economy. The idea was that recession stemming from an overall decline in demand could be moderated by removing the administrative barriers that in a planned economy hindered the best deployment of resources.

The results were the reverse of expectations. Unemployment reached 12 percent of the labor force by the end of 1991, and real incomes plummeted (by about 40 percent). An estimated 17 percent of the population lived in poverty in 1989. By 1991, that figure reached 34 percent. The poverty rate more than doubled for all social groups except pensioners, for which it remained stable. Large households, and children in particular, were especially affected. The poverty gap rose from an estimated 1.4 percent of GDP to 4.8 percent.

Existing evidence on income distribution shows that it did not change. There was a slight compression of income among farmers, which has also occurred in the past when real incomes declined, and possibly some wage-stretching among workers.

What happened to the general welfare? Conclusive results are elusive. Personal consumption, overall, decreased. Queuing also decreased, but utility gains from shorter lines were offset as real wages, and thus the opportunity cost of waiting, declined. Real appreciation of the exchange rate raised dollar wages substantially and led to an upsurge in consumer imports, thus increasing the utility derived from the ownership of consumer durables.

This paper — a product of the Transition and Macro-Adjustment Division, Policy Research Department — is part of a larger effort in the department to analyze income distribution and poverty in transition economies. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rebecca Martin, room N11-043, extension 39026 (29 pages).

1166. The Behavior of Russian Firms in 1992: Evidence from a Survey

Simon Commander, Leonid Liberman, Cecilia Ugaz, and Ruslan Yemtsov
(August 1993)

The shocks 41 Moscow firms suffered in 1992 did not necessarily reduce their profitability. But what's good for these few Russian firms may be bad for the economy. Rapid adjustments to price changes, accelerated wage claims, and accommodating monetary policy may lead to high, sustained inflation.

The authors surveyed 41 firms in and around Moscow in the last two weeks of November 1992 to get an empirical handle on how firms are responding to the changing economic environment. They found that:

- There were large negative (supply and demand) shocks to output for a significant number of firms and branches.
- Profitability was remarkably buoyant in real terms; there was clear evidence that firms with market power rapidly adjusted producer prices, trying to maintain or increase their markup.
- There was no evidence of a strategic change in pricing rules.
- Most firms experienced relative stability in earnings and in the distribution of revenues. There was no substantial evidence of decapitalization — at least through greater borrowing or predatory wage settlements.
- The upward shift in interfirm arrears was smaller than aggregate numbers might have led one to expect.
- Inertia in the wage system should not be ignored. Real wages were cut back sharply by the great price shock of January 1992, but real statistical wages then climbed back toward early 1991 levels.
- Benefits firms provided account for large shares of labor income and 40 to 45 percent of firms' costs. Firms may have tried to squeeze benefits, particularly in housing, but allocations to the Social Fund have generally stayed constant.
- Employment adjustments were limited, despite the downward pressure on output and the lack of growth in firms surveyed. Net employment separations were relatively restricted. Firms continued to hire at significant rates in 1992, in part because of fixed factors technology, in part because of the reluctance of firms to discard workers. Consequently, firms have shed few workers — mostly ancillary and clerical staff, usually women.
- Some firms chose to place workers on minimum wages, reducing labor costs significantly. The result is that unemployment benefits are provided de facto within the firms rather than through labor offices.
- In short, the status of the so-called production worker, the core of the Russian industrial firm, remains untouched. Clearly, there was a large "employment overhang" at the end of 1992. The next stage of the transition will be difficult.

This paper — a product of the National Economic Management Division, Economic Development Institute — was funded by the Bank's Research Support Budget under the research project "Labor Markets in Transitional Socialist Economies" (RPO 677-30). Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Olga del Cid, room M3-047, extension 35195 (46 pages).

1167. Unemployment and Labor Market Dynamics in Russia

Simon Commander, Leonid Liberman, and Ruslan Yemtsov
(August 1993)

Lack of a credible reform program has weakened any impulse toward large-scale restructuring of firms in Russia. Net changes to employment have been limited, and have involved mostly ancillary or clerical staff.

The past 15 months have seen the beginning of structural change in Russia but a failure of the economy to stabilize. The balance sheet, conclude Commander, Liberman, and Yemtsov, suggests that a return to centralized control remains almost impossible, but the decentralization that has occurred contains many undesirable features.

In framing their analysis, the authors draw on aggregate data and firm-level data from the first-round results of a 1992 survey covering 41 firms in the Moscow region. The survey results suggest that the greater autonomy of firms has facilitated the exploitation of market power while failing to dampen the demand for easy credit from the budget or banking system. For the most part, that demand has been satisfied, enabling firms to meet current wage claims and, to a lesser degree, sustain output levels.

Buoyant nominal profits can be traced either to pricing behavior derived from market power or to transfers or subsidies channeled through the fiscal or monetary system. This in turn has artificially sustained the revenue side of the government accounts.

Official unemployment was no more than 1 percent of the labor force by the end of 1992, but evidence on the importance of marginal unemployment indicates that the underlying pass-through into open unemployment will be great. By the third quarter of 1992, this "augmented" unemployment rate approached 4 percent of the labor force. Even so, the authors observe nontrivial outflows from unemployment to jobs, and in some regions to jobs in the private or collective sector.

In Russia, outflows to state sector jobs dominate. Survey evidence shows considerable turnover in the state sector and resilient hiring. Much of the churning in labor markets seems to be through voluntary separations and job transitions. Net changes to employment have been limited, and have involved mostly ancillary or clerical staff.

Commander, Liberman, and Yemtsov discern a core or membership rule dominating Russian firms' decisions, which it would be dangerous to assume will be maintained. They interpret it as a holding strategy in a complex game the firms have been playing with government. Lack of a credible reform program has weakened any impulse toward large-scale restructuring of firms.

Wages have been more volatile and have greater regional dispersion, but the authors predict no large consistent shift in relative wages. Rather, the wage path has probably been governed by current revenue streams and additional transfers, and then set consistent with the stable employment rule. The path of wages over 1992 is clearly associated with changes in Russia's monetary and fiscal stance and allied institutional features.

This paper — a product of the National Economic Management Division, Economic Development Institute — was funded by the Bank's Research Support Budget under the research project "Labor Markets in Transitional Socialist Economies" (RPO 677-30). Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Olga del Cid, room M3-047, extension 35195 (46 pages).

1168. How Macroeconomic Projections in Policy Framework Papers for the Africa Region Compare with Outcomes

Rashid Faruqee
(August 1993)

Actual outcomes are compared with projected or targeted outcomes for selected macroeconomic variables to assess the quality and relevance of projections in policy framework papers for the Africa region.

Policy framework papers (PFPs) have become important documents because they provide a framework for the economic policies that a country will pursue and for donor assistance. The projections included in these documents reflect the policy targets and the expected outcomes of policy reforms.

Faruqee focuses on the quality and relevance of these projections, comparing actual outcomes with the projected or targeted outcomes for selected variables. The idea is that a retrospective survey such as this will eventually improve projections.

Faruqee recommends further country-by-country analysis of PFP projections and actual outcomes to identify how much of the divergence between the two is due to external factors (such as weather and terms of trade) and how much to lack of progress in policy reform. Delayed progress could be due to unforeseen circumstances (such as political changes or internal strife) or to unrealistic targets.

The quality and realism of PFP projections are likely to improve, says Faruqee, if certain steps are taken in making projections:

- All PFPs after the first one should contain a review of outcomes in relation to projections in previous PFPs.
- Whenever the chances of falling short of projected or targeted outcomes are high, the PFP should say so.
- Using references such as this review, the projections could consider benchmark figures based on experience with successful cases of adjustment.
- From time to time, each country department could carry out a review to assess the realism of departmental PFP projections, and the Chief Economist's Office could review projections to assess their quality.

This paper — a product of the Office of the Chief Economist, Africa Regional Office — is part of a larger effort to assess the progress of adjusting countries in the Africa region with macroeconomic and structural reforms. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Nandita Tannan, room J5-101, extension 34581 (109 pages).

1169. Costs and Benefits of Debt and Debt Service Reduction

Eduardo Fernandez-Arias
(August 1993)

Contrary to popular views, commercial banks have probably benefited from debt and debt service reduction operations. Debt and debt service reduction make sense to the borrowing country only if they will engender enough indirect benefits (such as increased domestic and foreign savings) to compensate for their heavy direct costs.

Fernandez-Arias evaluates the costs and benefits of debt and debt service reduction (DDSR) from the point of view of five countries that have concluded Brady deals: Costa Rica, Mexico, the Philippines, Uruguay, and Venezuela.

He concludes that, contrary to widely held views, commercial banks have probably benefited from the operations. Commercial bank participation in DDSR is voluntary, so direct financial savings to the country are probably negative at present values. The benefit from DDSR is not that debt is bought at "bargain prices" at the expense of commercial banks. It appears difficult to justify a DDSR operation on purely financial grounds. A more realistic way to look at a DDSR operation is to view it as a "project" that involves a certain financial cost. The return on such a project is how the DDSR operation improves the macroeconomy, or contributes to development.

The main purpose of DDSR is to establish a more efficient arrangement between debtor countries and commercial banks, leading to improved conditions for development. A DDSR operation that does not help development is costly and should not be undertaken.

The impact of DDSR on development is usually measured by the increase in the growth rate of GDP, but it is too soon to measure that for these five countries. A suitable alternative is to look at the change in investment patterns.

A strong policy framework is needed if debt and debt service reduction are to significantly improve development. In Mexico and, to a lesser extent, Venezuela improved and sustained strong adjustment policies have generated the greatest development benefits. Gains have been less in smaller countries where policies were not as supportive.

Fernandez-Arias concludes that for a country to benefit from DDSR, it needs significant indirect benefits (such as increased domestic and foreign savings). Direct benefits are likely to be negative because of the commercial banks' financial gains and because DDSR operations are frontloaded. DDSR operations cannot be justified solely by direct benefits and savings in cash flow.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in the department to understand the costs and benefits to countries of debt and debt service reduction arrangements. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rose Vo, room S8-042, extension 33722 (38 pages).

1170. Job Search by Employed Workers: The Effects of Restrictions

Avner Bar-Ilan and Anat Levy
(August 1993)

Some firms offer high wages in return for their workers' implicit commitment not to search for better jobs. Some firms that cannot afford to pay wages that guarantee lifetime attachment pay lower wages, but impose no restrictions on searches for better jobs. When the separation bond takes the form of a transfer between the employer and the employee, employment is unaffected in most cases. But when it is forfeited to a third party, employment among all types of workers falls.

Within the framework of a general equilibrium search model, Bar-Ilan and Levy study the effect of institutional restrictions on workers' job mobility.

The model generates endogenous job searches on the job and off the job with two forms of labor contracts emerging and coexisting in equilibrium.

One form of contract involves the workers' long-term commitment to the firm ("reversed tenure"): Some firms offer high wages in return for their workers' commitment not to search for better jobs.

The other is a short-term contract requiring no such commitment: Some firms that cannot afford to pay wages that guarantee lifetime attachment pay lower wages, have lower turnover costs, but impose no restrictions on searches for better jobs.

Bar-Ilan and Levy study the effects on employment of exogenous restrictions on mobility — in the form of a transfer from the quitting worker, made either to the employer or to a third party. These transfers, the separation bonds, are typically the benefits lost by the quitting worker, such as vested pension. Restrictions of this type, by crowding out the firms that allow on-the-job searches for employment, directly increase unemployment.

When restrictions on workers' mobility take the form of a zero-sum transfer, there is no real effect so long as the transfer is below some bound — the worker loses nothing. When the separation bond is prohibitively large, or when it is forfeited to a third party, employment among all types of workers falls.

This paper — a product of the Trade Policy Division, Policy Research Department — is part of a larger effort in the department to study the impact of labor market institutions and policies on economic performance. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Dawn Ballantyne, room N10-023, extension 37947 (29 pages).

1171. Finance and Its Reform: Beyond Laissez-Faire

Gerard Caprio, Jr. and Lawrence H. Summers
(August 1993)

Many economies would benefit from less government intervention in financial markets, but the prescription should not be abrupt or total government withdrawal from the financial sector. Rather than intervening heavily in credit allocation decisions, governments should focus on doing what only they can do: providing an enabling environment for the private financial and nonfinancial sectors, and ensuring that financial operations are safe and sound.

That the financial sector should be liberalized was the orthodox view in the mid-1970s, during a pendulum swing toward reliance on the free market. In the early 1980s, the pendulum swung back to the left, based partly on evidence — especially from Latin America — that overly rapid reform had real costs, and partly on an increased appreciation of financial market failure. Blind adherence to free market principles was no longer appropriate. Now a counter-counterrevolution is in sight, with some swing back toward the view that the market makes a mess of it, but the government makes it even worse.

Caprio and Summers agree that market-oriented financial systems appear to do a better job than systems with extensive government involvement, but contend that the assumption that perfect competition will solve all problems in finance — especially in banking — can be dangerous. Information problems, implicit or explicit government guarantees associated with deposits, and externalities associated with the payments system make banks unique.

Governments implicitly recognize banking's uniqueness — few allow just anyone to enter banking — but public pronouncements and observers' recommendations often favor a move to more competition. Perfect competition, however, is optimal under the assumption, among others, of no government guarantee. In fact, most governments differ only in how explicit they are about their deposit insurance schemes.

The financial reforms most likely to succeed are those that give banks an incentive to engage in safe and sound banking. When excessive competition is allowed, the "charter value" of banking diminishes to the point that it is no longer profitable for bankers to behave prudently.

A consideration of finance's role, and a look at how reforming economies have fared, suggest also that gradual reform is often to be preferred in this domain. Deregulation of credit markets and interest rates can be counterproductive in unstable macroeconomic conditions and when banks are unsophisticated or have weak balance sheets. And changes in the charter value may evolve only slowly after reform.

Faster progress and greater efforts should be made, however, in bank supervision and regulation and in institutional development, including accounting, auditing, legal and judicial reform, and training (of bankers and other finance professionals).

In sum, many economies would benefit from less government intervention in financial markets, but the prescription should not be abrupt or total government withdrawal from the financial sector. Rather than intervening heavily in credit allocation decisions, governments should focus on doing what only they can do: providing an enabling environment for the private financial and nonfinancial sectors, and ensuring that financial operations are safe and sound.

This paper — a product of the Financial Sector Development Department — is part of a larger effort in the department to study the role of finance in development. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Paulina Sintim-Aboagye, room N9-059, extension 38526 (24 pages).

1172. Liberalizing Indian Agriculture: An Agenda for Reform

Garry Pursell and Ashok Gulati
(September 1993)

India's incentive system heavily favors manufacturing and discriminates against agriculture. This proposed reform agenda would remove major policies that distort agricultural imports, exports, inputs, and domestic markets. It would protect low-income groups against necessary increases in food prices.

In July 1991, India embarked on a program of economic decontrol that greatly speeded the previously slow process of liberalizing trade and domestic regulatory controls begun in 1978. But the focus of reform has been on manufacturing. Reform has barely touched agriculture, which accounts for two-thirds of employment in India and about 30 percent of India's GDP.

Although some crops (notably oilseeds) receive heavy protection, the net effect of interventions to date is to heavily favor manufacturing over agriculture. In this agenda for reform, Pursell and Gulati recommend:

• Removing all quantitative export and import controls on agriculture, except for special treatment (such as export taxes) when Indian exports would be substantial enough to depress world prices (most likely with rice).

• Further reducing protection on manufacturing, rather than bringing protection for agriculture up to the same level.

• As a transitional measure, considering the use of variable tariffs based on weighted averages of past international prices as a way to partly insulate domestic prices from extreme fluctuations in world prices.

• Initially, allowing the export only of high-quality, high-priced varieties of such commodities as cotton and rice, to limit upward pressures on domestic prices of lower-quality varieties, which are important to consumption in low-income Indian households.

• Liberalizing fertilizer imports and deregulating domestic manufacturing and the distribution of fertilizers.

• Removing subsidies on irrigation, electricity, and credit (and creating conditions to facilitate the trading of canal irrigation water rights).

• Deregulating the wheat, rice, sugar, cotton, and edible oil and oilseed industries, and abolishing compulsory government acquisition at below-market prices of sugar, molasses, and milled rice.

• Reforming the food security system to protect low-income groups from the increase in the general level of food prices required by the liberalization of agriculture. This would involve better targeting of food subsidies and associated reforms of the public distribution system, or even its eventual replacement by a food stamp system.

Research for this paper — a joint product of the Trade Policy Division, Policy Research Department of the World Bank, and the National Council of Applied Economic Research in New Delhi — was carried out mainly by consultants in India. It is part of a long-term research program to quantify the impact on agriculture of India's trade and other incentive and regulatory policies. The paper was funded by the Bank's Research Support Budget under a dissemination grant (RPO 678-04). Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Dawn Ballantyne, room N10-023, extension 37947 (44 pages).

1173. Morocco's Free Trade Agreement with the European Community: A Quantitative Assessment

Thomas F. Rutherford, E. E. Rutström, and David Tarr
(September 1993)

Welfare benefits to Morocco from a free trade agreement with the European Community would be about 1.5 percent of GDP. But welfare benefits would be 2.5 percent of GDP if Morocco liberalized trade with the whole world — and with only slightly higher adjustment costs.

Morocco is interested in developing a reciprocal free trade agreement with the European Community (EC), although it already enjoys free access to EC markets in industrial products and is not obligated to give EC exporters reciprocal access. But Moroccan agricultural exports are impeded by agricultural protection in the European Community.

A free trade agreement would require that Morocco lower its moderately high tariffs against its most important trading partner. Tariff reductions against the European Community but not against the rest of the world may provide benefits provided the trade diversion costs of preferential tariff reduction do not dominate.

Rutherford, Rutström, and Tarr apply a 39 sector general equilibrium model of the Moroccan economy which includes the sectors most likely to be affected by such an agreement. They investigate the economic effects of the prospective free trade agreement as well as five other trade liberalization scenarios for Morocco. Among their most important findings:

• The welfare benefits to Morocco from a free trade agreement with the European Community would be about 1.5 percent of GDP. Such substantial welfare gains partly reflect the benefits of reducing dispersion in the tariff regime.

• Welfare benefits of about 2.5 percent of GDP would accrue from liberalizing trade with the rest of the world — with only slightly higher adjustment costs. Liberalizing trade with the world would provide greater benefits because it would eliminate the trade diversion costs associated with discriminatory trade liberalization. (Although the fact that significant benefits would accrue from discriminatory liberalization against imports from either the European Community or the rest of the world indicates that trade diversion is not dominant.)

- As a result of improved access to the European Community, employment and output in the vegetable and citrus fruit sectors would expand. But the phosphate sector stands to gain most from the free trade agreement because liberalization would induce a depreciation in the real exchange rate.
- Morocco's cereal, meat, dairy, and sugar sectors would lose most in terms of employment, because of significantly lower import prices from the European Community. The nontraded goods sector would also contract slightly.
- The value-added tax would have to be increased to compensate for the loss in tariff revenues, on which Morocco depends.

Estimates are provided as ranges, with probability assessments, because of the element of uncertainty.

This paper — a product of the Trade Policy Division, Policy Research Department — is part of a larger effort in the department to investigate the consequences of regional integration. The study was funded by the Bank's Research Support Budget under the research project "Impact of EC '92 and Trade Integration on Selected Mediterranean Countries" (RPO 675-64). Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Nellie Artis, room N10-013, extension 38010 (27 pages, plus 18 pages of appendices).

1174. Asian Trade Barriers Against Primary and Processed Commodities

Raed Safadi and Alexander Yeats
(September 1993)

Tariff escalation to protect domestic industries against more efficient producers is not limited to industrial countries. Protection of domestic industries is also common in Asian developing countries and in intra-Asian trade.

Many developing countries are being encouraged to shift toward increased processing and exports of domestically produced natural-resource-based products now exported in primary form. But in many major import markets, the structure of tariffs and nontariff barriers militate against such efforts.

Zero or low tariffs are generally applied to industrial countries' imports of primary (unprocessed) commodities; duties increase, or "escalate," as the level of processing or fabrication increases. Tariff escalation produces a trade bias against processed goods.

In the past, such trade barrier escalation has been attributed chiefly to industrial countries. Safadi and Yeats examined the structure of restrictions in Asian countries and found that most Asian countries' tariffs incorporated more escalation than do tariffs in industrial countries. Apparently tariff escalation is also often reinforced by nontariff barriers on processed goods, although supporting data for this finding are less firm.

This issue should not be viewed as a North-South issue, contend Safadi and Yeats. A bias against imports of processed goods is built into trade barrier escalation *among* Asian countries and should be addressed in regional initiatives to liberalize intra-Asian trade barriers.

Safadi and Yeats make three recommendations for dealing with escalation issues in multilateral negotiations:

- Japan and, to a lesser extent, the Republic of Korea are the key to successful negotiations on these issues, as they have a far greater import bias against processed commodities than do all other countries with which Safadi and Yeats compare them. That is, Japanese and Korean trade barriers incorporate far more escalation than do trade barriers in other countries studied.
- Disproportionately high cuts in trade barriers for unprocessed commodities are not the solution, as they would increase effective protection for processed goods.
- Any approach to trade liberalization should deal with both tariffs and nontariff barriers, to ensure that a reduction in one type of restriction is not offset by a further tightening in the other. Several Asian countries apply both types of restrictions to commodity imports.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in the department to analyze and predict structural changes in trade and to identify factors affecting developing countries' exports. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Jean Jacobson, room S7-037, extension 33710 (29 pages).

1175. OECD Trade Barriers Faced by the Successor States of the Soviet Union

Bartlomiej Kaminski and Alexander Yeats
(September 1993)

Opportunities to expand investments and exports in the former Soviet Union are unlikely until the OECD governments, especially in the European Community, reduce tariff and nontariff barriers enough to put the newly independent states of the former Soviet Union on an equal footing with other countries.

Using a comprehensive World Bank–UNCTAD data base on tariff and nontariff barriers (NTBs), Kaminski and Yeats examine the incidence of OECD trade barriers to exports of the former Soviet Union (FSU). OECD markets have grown steadily in importance in the past decade and now receive more than half of FSU exports. And additional trade could help the FSU republics make the transition to market economies.

Overall, OECD tariffs that the FSU republics face are 70 to 90 percent higher than the average paid on all goods imported, but their worst effect is the result of the *margins of preference* they give other (non-FSU) exporters. For example, because of a special EFTA-EC protocol, manufactures are traded duty-free between countries in these two blocs, while similar (competing) FSU goods may face duties of 20 percent or more.

No significant trade expansion will occur until nontariff barriers are liberalized in NTB-"ridden" product groups of interest to FSU exporters. Sectors in which NTBs are particularly important include fish, fruit, sugar, vegetables, beverages, textiles, clothing, and ferrous metals. OECD trade barriers on some FSU commodity exports provide high levels of "effective protection" that constrain the efforts of the newly independent states of the FSU (NISs) to increase domestic commodity processing.

Although the United States has granted most-favored-nation status to the NISs (excluding Azerbaijan), and the European Community recently signed the Agreements on Trade, Commercial, and Economic Cooperation with the Baltic states, these developments have not substantially improved their market access. Because of geographic proximity and the existing transportation network, the European market is the most important OECD market for most NISs. But under present EC arrangements, NIS products are subject to higher tariffs and more restrictive nontariff barriers than exports from EFTA members, Lomé Convention signatories, or former European CMEA members (the Czech Republic, Hungary, Poland, Romania, and Slovakia). Lower wage rates in many NISs may not be sufficient to compensate for their generally lower productivity and the losses in value added (triggered by higher tariffs) that exporters have to absorb to compete in protected markets.

Except for exports of energy and industrial raw materials, trade opportunities for many products in which the newly independent states of the former Soviet Union might have a comparative advantage are greatly restricted by OECD tariffs and nontariff barriers.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in the department to analyze and predict structural changes in trade and to identify factors operating to restrain trade. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Jean Jacobson, room S7-035, extension 33710 (35 pages).

1176. Cash Social Transfers, Direct Taxes, and Income Distribution in Late Socialism

Branko Milanovic
(September 1993)

The formerly socialist countries of Central and Eastern Europe are ill-prepared to identify the needy and deliver social services to them. The question is, toward which world of welfare capitalism are Eastern European countries likely to evolve?

Milanovic analyzes the impact of direct taxes and cash social transfers on income distribution in Bulgaria, Czechoslovakia, Hungary, Poland, and Yugoslavia in the years before the collapse of communism. He contrasts the results for socialist and market economies.

Cash social transfers accounted for about a fifth of gross income, a proportion comparable with that in developed welfare economies. Generally, cash transfers were unrelated to income in socialist countries, in marked contrast with market economies, where such transfers go mainly to low-income households.

Direct taxes played almost no role in income redistribution. They were small — 1 to 2 percent of gross income, except in Hungary — and proportional to income. Most taxes were paid by enterprises, as payroll taxes, and most workers were unaware of the taxation and that public spending could not permanently exceed public revenues from taxation.

In socialist countries, social support was built into the system through full employment guarantees, state-run pension schemes, and free public education and health care. The only explicit policy toward poverty involved alcoholics, handicapped people, and other special categories.

This system is being replaced by a market system in which the labor market is key and those who cannot earn enough must be supported by the state. To counteract increasing income disparities, social transfers must be focused more on the poor. Eastern European states are ill-prepared for this role. They have no experience in identifying the needy and targeting support to them. The question is, toward which world of welfare capitalism are the formerly socialist countries likely to evolve?

Milanovic contends that the Central European countries will probable evolve toward the corporatist model of continental Europe. Capitalist countries in Europe tend to have large social transfers that are often related to previous earnings, so they have relatively limited roles in income redistribution. Transfers are closer to social insurance than to social assistance.

The evolution of more agricultural Balkan countries and the Slavic republics of the former Soviet Union is more difficult to predict. Poorer and more agriculture-based countries are generally less able to administer welfare schemes, gauge individual incomes, and deliver social support — and their finances may be even more strained than those of their Central European counterparts.

This paper — a product of the Transition and Macro-Adjustment Division, Policy Research Department — is part of a larger effort in the department to study income distribution in transition economies. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rebecca Martin, room N11-043, extension 39065 (33 pages).

1177. Environmental Taxes and Policies for Developing Countries

Neil Bruce and Gregory M. Ellis
(September 1993)

Command-and-control environmental policies and market-based incentive policies differ in administrative cost, level of control over polluters, monitoring and compliance requirements, incentives for polluters to invest in pollution abatement, and fiscal consequences to the government.

Increasing urbanization and industrialization can exacerbate pollution problems in developing countries. Tax revenues in developing countries are too low to support adequate infrastructure for treating and disposing of wastes, but the problem is also attributable to the classic problem of externalities in production and consumption. "Externalities" means that the costs of environmental degradation are not considered by the private decisionmakers undertaking the activities that cause the problems.

Two types of policies are commonly considered to correct this market failure and improve the allocation of resources: *command-and-control policies* (such as emission and abatement standards) and *market-based incentive policies* (such as emissions charges, taxes on production and consumption, and marketable pollution quotas), which raise the price of such activities for the perpetrators.

Market-based incentives theoretically reduce pollution at least cost and increase government revenues, but may require costly monitoring to be effective, and are usually implemented in an environment of imperfect information about the costs of abatement. Sometimes command-and-control policies make more economic sense in this environment.

Efficiency gains from curbing pollution in developing countries may be large. Some polluting activities are subsidized, so curtailing them brings both fiscal and environmental benefits. Taxing polluting inputs and outputs is a particularly attractive policy in developing countries, which often lack experience in administering and enforcing other types of environmental regulation. Corrective taxes make use of existing administrative structures and increase tax revenues, which can be spent on public goods to improve environmental quality (including treatment facilities for water and sewage, waste disposal, and sanitation) or can be used to reduce other taxes (which are often highly distortionary in countries with a narrow tax base).

Which goods and inputs to single out for corrective taxation depends on the main sources of pollution, which varies from country to country. Air pollution from vehicles is growing in many countries, where increased fuel taxes, perhaps coupled with improved regulations for vehicle maintenance, may be desirable. Higher taxes on high-sulphur coal would curb both industrial and household emissions of sulphur dioxide. Charges can be implemented for fixed-site easy-to-monitor industrial emissions. Subsidies to industries that cause pollution should be phased out and those industries should be subjected to higher-than-average tax rates.

This paper — a product of the Public Economics Division, Policy Research Department — is part of a larger effort in the department to evaluate fiscal instruments for environmental protection. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Carlina Jones, room N10-063, extension 37699 (74 pages).

1178. Productivity of Public Spending, Sectoral Allocation Choices, and Economic Growth

John Baffes and Anwar Shah
(September 1993)

The model results suggest that reshaping public spending priorities in favor of human resource development and away from military spending would positively stimulate world economic renewal.

Baffes and Shah examine the composition of public spending and its implications for economic growth.

They use a translog production function by treating gross domestic product as the output and labor, private capital, and several types of public sector capital stocks as the inputs, using time-series data for 25 countries for 1965-84.

The production functions of all but four countries exhibited increasing returns to scale. The highest output elasticity was for human resource development capital, followed by private capital and labor. Output elasticity of infrastructure capital was found to be relatively small, with the exception of Latin American countries where it exhibited relatively high values. Military capital had negative output elasticity in slightly more than half of the cases considered.

The results suggest that reshaping public spending priorities in favor of human resource development and away from military spending would positively stimulate world economic renewal.

This paper — a product of the Public Economics Division, Policy Research Department— was presented at the 1993 Annual Meetings of the American Economic Association in Anaheim, California, in January 1993. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Carlina Jones, room N10-063, extension 37699 (15 pages).

1179. How the Market Transition Affected Export Performance in the Central European Economies

Bartlomiej Kaminski
(September 1993)

There appears to be a close link between export performance and the decision to move quickly to a market-based economy. Countries that removed administrative controls on prices, devalued currency, introduced unified exchange rates, and liberalized trade also expanded exports. The driving force of export growth in five Central and Eastern European countries was manufactures, some of them redirected from CMEA markets, primarily to Germany.

Empirical studies have paid little attention to the supply-side forces behind the export performance of the Central and Eastern European countries of Bulgaria, Czechoslovakia, Hungary, Poland, and Romania (CEE-5) in OECD markets after the collapse of central planning.

Kaminski examines export developments in these countries in 1980-91, focusing on how transformation programs affected trade. OECD markets now receive three-fourths of CEE-5 exports. Sustaining this market penetration is crucial for countries making the transition to market-based economies. Kaminski provides insight into the impact of transformation-cum-stabilization programs on export performance. These insights are relevant to former centrally planned economies that have yet to restore macroeconomic equilibrium and to liberalize prices.

Kaminski examines the export performance of the CEE-5 before and after the collapse of central planning. He finds a close link between export performance and the decision to move quickly to a market-based economy. Countries that removed administrative controls on prices, devalued currency, introduced unified exchange rates, and liberalized trade also expanded exports. Bulgaria and Romania, crippled by macroeconomic chaos and vacillating macroeconomic reform, registered drops in both exports and imports.

Kaminski suggests that differences among Czechoslovakia, Hungary, and Poland (CEE-3) had little to do with previous trends in export performance, external economic factors, and earlier attempts at trade reform. The expansion of exports in 1990-92 represented a dramatic reversal of trends prevalent in the prior two decades. The surge in exports is explained neither by the length of time experimenting with foreign trade under central planning nor by earlier trends in competitiveness in OECD markets.

The driving force of export growth was manufactures, some of them redirected from CMEA markets, primarily to Germany. The severing of links that used to bind the economies of the CMEA had a less destructive impact on the foreign trade performance of the CEE-3 than one might have expected.

The fact that exports to the CMEA fell at the same time that exports elsewhere (often of the same products) increased suggests a causal relationship.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in the department to analyze the transition from central planning to market-based economies. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Pauline Kokila, room S7-040, extension 33716 (38 pages).

1180. The Financing and Taxation of U.S. Direct Investment Abroad

Harry Huizinga
(September 1993)

A reduction in average tax rates on U.S. investment abroad and a relative shift of U.S. investment toward industrial countries, rather than developing countries, suggests a tougher climate ahead for developing countries that wish to attract foreign direct investment.

Huizinga examines the financing of U.S. direct investment abroad. Using a theoretical model, he first examines how home country investors can use debt finance to reduce their host country tax liability and to reduce the capital investment distortion attributable to foreign taxes.

Empirically, U.S. affiliates are shown to use leverage in high tax environments and in situations where the affiliates face high foreign wage bills relative to assets. This confirms the notion that leverage can be used to ward off host country tax and wage pressures on the firm.

Huizinga examines what characteristics of foreign direct investment determine the average host country tax rate paid. Generally, the taxation of foreign direct investment is positively related to the ratio of a firm's plant and equipment spending to its assets, and negatively related to the size of the wage bill. Host countries appear to charge lower taxes in cases where U.S. direct investors abroad pay high wage bills to labor within the host country.

Certain trends emerge from the data:

- There is a relative shift of U.S. direct investment abroad toward the industrial countries.
- Debt finance of direct investment is becoming more important in industrial countries and less important in developing countries.
- The tax benefits that industrial and developing countries get from U.S. affiliates, as measured by average income and payroll tax rates, are waning. The downward trend in tax rates suggests an increased international competition to attract foreign direct investment.

The reduction in average tax rates on U.S. investment abroad and the relative shift toward investment in industrial countries suggests a tougher climate ahead for developing countries that wish to attract foreign direct investment.

One strategy for attracting foreign investment would be to deepen the domestic financial market so a multinational can attract additional lending capital in the host country itself. Another approach is local equity participation in foreign direct investment to lessen the incentives for host countries to tax foreign investments highly.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in the department to study the effect of taxation of foreign direct investment. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rose Vo, room S8-042, extension 31047 (29 pages).

1181. Reforming Health Care: A Case for Stay-Well Health Insurance

Zeljko Bogetic and Dennis Heffley
(September 1993)

Many health care reform proposals expand insurance coverage without fundamentally changing the structure of health insurance. The stay-well plan used in Mendocino County, California, since 1979, offers an alternative insurance structure that provides direct incentives for consumers to control utilization and adopt healthier lifestyles.

All countries — whether industrial, developing, or in transition to a market economy — are interested in health care reform. A central focus of reform everywhere is to make patients more responsive to health care costs without diluting the protection offered by public or private insurance.

Conventional insurance offers customers little incentive to monitor their own use of health care services or to adopt and maintain better health habits.

Bogetic and Heffley describe an alternative health insurance structure first adopted in Mendocino County, California, in 1979, and compare it with conventional forms of insurance. The Mendocino or "stay-well" plan offers consumers direct incentives to control their use of health care services and to adopt healthier lifestyles. How well this insurance can contain health care costs depends on the size of the incentives and consumer responsiveness to them.

Conditions in some developing countries and in many countries moving to market-based economies — overuse of services, poor health habits, and declining real incomes — improves the likelihood of a favorable response to such incentives.

How to structure the stay-well system depends on the country, but the stay-well plan is a general, flexible form of insurance that subsumes most conventional plans as special cases. The rewards for low use might take many forms. As in the Mendocino plan, the rewards might be a credit to a retirement account, but they could just as easily be annual cash rebates or credits against out-of-pocket expenses that exceed an individual's or family's spending goal in a future period.

Administration of the stay-well plan appears not to be unduly complex. If anything, incorporating stay-well incentives in a single-payer or national health care system would be simpler than incorporating them in a self-insured fund. The success of the plan hinges on whether incentives shift the frequency distribution of health care spending by reducing unnecessary utilization in the short-run and through better health care habits, reducing long-run costs.

Despite additional payments to low users, the stay-well plan could be less expensive than conventional plans with similar coverage. As in any insurance plan, solvency is enhanced by larger groups, better risk-pooling, economies of scale in administration and claims processing, and greater bargaining power with health care providers.

This paper — a product of the Country Operations Division, Europe and Central Asia, Country Department I — is part of an effort in the region to strengthen the emphasis on the analysis of social sector issues. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Faith Smith, room H5-245, extension 36072 (17 pages).

1182. Corporate Governance in Central and Eastern Europe: Lessons from Advanced Market Economies

Cheryl W. Gray and Rebecca J. Hanson
(September 1993)

The countries of Central and Eastern Europe need to err on the side of stronger and more active corporate governance. German and Japanese models may offer some clues.

Patterns of corporate ownership and governance in advanced market economies vary immensely, the result not only of policy choice but of cultural and political differences and historical accident. None of those patterns can be copied wholesale onto the Central and Eastern European scene. But the experiences of Germany, Japan, and the United States do point to certain lessons and tradeoffs that the Central and Eastern European countries should consider.

First, there is probably some tradeoff between the distribution of wealth and the efficacy of corporate governance in an economy. Theory and to some extent practice support the view that tighter ownership patterns lead to better corporate performance. But more widely dispersed ownership patterns clearly have other economic and social benefits that are important in the Central and Eastern European context and to some extent (along with speed) motivate the "mass privatization" plans. The use of institutional intermediaries and creative legal frameworks to concentrate voice more than ownership may be a partial solution to the dilemma. Stronger and more committed voice might also be gained by encouraging ownership by parties with other long-term contractual interests, whether as suppliers, employees, or creditors.

Second, there is likely to be some tradeoff between industrial structure and the efficacy of corporate governance. Given a certain dispersion of ownership in an economy, smaller firms mean fewer owners, greater stakes per owner, and greater incentives and lower costs for shareholder monitoring. Yet Central and Eastern European industrial structures tend to be quite highly concentrated. There may be other benefits to preserving such concentration in some industries, but antimonopoly and privatization policies should not leave the governance issue out of the equation.

Finally, there is clearly an important and difficult tradeoff between the efficacy of corporate governance and concerns of safety and soundness in financial intermediaries. The United States represents one extreme, where concerns of safety and soundness dominate, limiting active participation in corporate governance by banks, insurance companies, pension funds, and mutual funds. Germany and Japan are on the other side, allowing financial intermediaries (and other related firms) a major voice in corporate governance. Unfortunately, this tradeoff is even more difficult in Central and Eastern Europe because of the lack of alternative tools to achieve either goal. On the one hand, legal and information systems are relatively weak, making it difficult to identify and eliminate irresponsible self-dealing by fiduciaries in the intermediary institutions. Furthermore, the high degree of risk in these economies argues strongly in favor of diversification on the grounds of safety and soundness. On the other hand, product, capital, and labor markets are often underdeveloped, so there may be few other constraints to discipline company managers in the absence of active shareholder monitoring.

This paper — a product of the Transition and Macro-Adjustment Division, Policy Research Department — is part of a larger effort in the department to analyze the economic impact of legal reform in Central and Eastern Europe. The study was funded by the Bank's Research Support Budget under the research project "Corporate Governance in Central Europe" (RPO 678-42). Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Maxine Berg, room N11-057, extension 31450 (30 pages).

1183. Who Would Vote for Inflation in Brazil? An Integrated Framework Approach to Inflation and Income Distribution

Cheikh Kane and Jacques Morisset
(September 1993)

Are Brazil's delays in adopting a stabilization program related to the finding that Brazil's high inflation hurts the lower and middle classes far more than the rich, who insulate themselves from its effects by taking advantage of high real interest rates on demand deposits?

Most studies of how inflation affects income distribution focus only on wages or the inflation tax. Kane and Morisset argue that this approach could be misleading as it ignores important channels through which inflation affects income distribution.

The authors present an integrated framework that combines interest-bearing assets with labor income and cash holdings. This allows them to describe clearly the conditions under which inflation will create gainers and losers.

They apply the model to Brazil, which is a prime candidate for this exercise because its economy combines skewed income distribution and high inflation. They show that in Brazil inflation helped worsen income distribution in the 1980s. Their major findings are as follows:

- In 1980-89, the inflation-induced income loss for the lowest quintile in Brazil was an estimated 19 percent a year, of which 16 percent is attributable to the erosion of real wages and the rest to the inflation tax.
- During the same period, Brazil's middle class, which lost close to 30 percent of its annual income, was devastated because of its limited access to indexed assets.
- But the richest quintile managed to insulate itself from inflation by taking advantage of high real interest on demand deposits — without losing from reduced labor income. Had real assets and subsidized credit been considered in the analysis, the regressive effects of inflation would probably have been even worse, say Kane and Morisset.

This raises a question: Do these findings about the distributional effects of inflation help explain Brazil's delays in adopting a stabilization program?

This paper — a product of the Latin America and the Caribbean, Country Department I — is part of a larger effort in the department to understand the social dimensions of inflation. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Tania Hollestelle, room I7-041, extension 30968 (29 pages).

1184. Providing Social Benefits in Russia: Redefining the Roles of Firms and Government

Simon Commander and Richard Jackman
(September 1993)

Providing for workers' social benefits is a brake on the competitiveness of Russian firms. But paying taxes that allow the government to provide benefits is not a solution either. The main problem is housing and a systematic program of divestiture may be the critical first step. This will involve tackling issues of financing, ownership, and common property.

Russian firms commonly provide many nonmonetary benefits to workers, including such social benefits as housing and some aspects of education and health care. Nonmonetary benefits may amount to 35 percent of labor costs, which is high compared with OECD countries. In a market economy, most of these benefits would be provided by local governments.

Commander and Jackson explain why the obvious solution — transferring social benefits and services from firms to local government or other agencies — is not so simple. At the same time, they outline the inefficiencies associated with firms providing such services and benefits. They explore the issues involved in calculating how social benefits should be divided between firms and the government and identify problems and options associated with the transition to a new division of rights and responsibilities.

The main problem is housing. After a government decree in February 1993, steps have been taken to accelerate privatization, but they have been piecemeal. The main stumbling block is the financing and management of common property. The problem of free riders and the lack of an appropriate institutional setting is likely to exacerbate problems of who handles and pays for common maintenance.

Commander and Jackson argue that a more systematic general program of divestiture in housing is essential. Part of this must be an explicit new institutional arrangement for addressing the management problem. The quality of the housing stock varies greatly, so they suggest a scheme and possible financing for dampening the large-scale effects of privatization and for ensuring a minimum level of quality for divested housing stock.

They discuss the divestiture and related financing problems in a number of settings. What happens, for example, in a company town when the company ceases operation? Who covers benefits for the workers left without a job? What compensatory financial supports are provided in such a town, given existing budget arrangements?

This paper — a product of the National Economic Management Division, Economic Development Institute — is part of a larger effort in the Bank to understand the functioning of labor markets in transitional economies. The study was funded by the Bank's Research Support Budget under research project "Labor Markets in Transitional Socialist Economies" (RPO 677-30). Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Olga del Cid, room M3-047, extension 35195 (41 pages).

1185. Reforming Hungarian Agricultural Trade Policy: A Quantitative Evaluation

Morris E. Morkre and David G. Tarr
(September 1993)

Import protection, export subsidies, and a potential common agricultural policy (CAP) system are all shown to be costly to Hungary in terms of lost welfare. The proposed CAP system would also significantly increase the government's fiscal problems.

Morkre and Tarr quantitatively assess the consequences for Hungary of three types of policies:

- Removing quantitative import restraints in agriculture, both for all of agriculture and for each of five separate agricultural products.
- Removing the export subsidy program in agriculture.
- Adopting a European Community-type common agricultural policy (CAP) system in Hungary.

The authors estimate the consequences of all policies by using a small open-economy computable general equilibrium model for Hungary, calibrated to the year 1990.

They estimate the tariff equivalent of the import licenses through a detailed study of price comparisons, the first of its kind for Hungary.

Imposing a CAP system, they find, would be a costly step backward for Hungary, especially as the long-run trend in Hungarian agricultural policy has been toward less intervention and more reliance on the market. A CAP system would significantly increase the government's fiscal problems.

Import protection and export subsidies are costly, inefficient policies. The most important policy conclusion, they contend, has to do with the piecemeal sequencing of reforms in the presence of both export subsidies and import licenses. Removing import licenses while export subsidies remain would generate byproduct distortions in the export market and little gain in welfare. The piecemeal removal of export subsidies, however, would not generate byproduct distortion, so substantial gains could be expected — but at the expense of greater adjustment costs.

To facilitate understanding of this commonly used type of general equilibrium model, they explain the results by using supply-and-demand graphs of the agricultural sector.

This paper — a product of the Trade Policy Division, Policy Research Department — is part of a larger effort in the department to assess the impact of trade liberalization in transition economies. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Nellie Artis, room N10-013, extension 37947 (28 pages, plus 11 pages of appendix).

1186. Recent Estimates of Capital Flight

Stijn Claessens and David Naudé
(September 1993)

Estimates of capital flight calculated using several methodologies do not differ widely.

Capital flight is more widespread than commonly assumed and, relative to GDP, evenly distributed. The capital flight-GDP Lorenz curve is close to the 45-degree line.

Researchers and policymakers have in recent years paid considerable attention to the phenomenon of capital flight. Researchers have focused on four questions: What concept should be used to measure capital flight? What figure for capital flight will emerge, using this measure? Can the occurrence and magnitude of capital flight be explained by certain (economic) variables? What policy changes can be useful to reverse capital flight?

Claessens and Naudé focus strictly on presenting estimates of capital flight using a number of alternative methodologies. In their discussion of these methodologies, they show that although the approaches to measuring capital flight differ, the identities used in balance of payment data make them close in final measurement. In particular, the so-called World Bank residual and Dooley methods — presented in the past as very different approaches to measuring capital flight — actually produce similar measurements.

Claessens and Naudé discuss the data used for calculating capital flight and the adjustment that must be made. They present aggregate capital flight figures using the various measures for 84 developing countries.

The figures show a pattern of increasing capital flight until 1988, followed by a return of flight capital between 1989 and 1991.

Claessens and Naudé present regional aggregates of capital flight and rank countries and regions by the level of capital flight relative to GDP. They find that capital flight is more widespread than commonly assumed and, relative to GDP, is rather evenly distributed. The capital flight-GDP Lorenz curve is above the 45-degree line, indicating that countries with smaller GDP have more capital flight than one would expect if it were distributed proportionate to GDP.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in the department to study the integration of developing countries in world financial markets. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rose Vo, room S8-042, extension 31047. (27 pages). For individual country data, available on a floppy disk, contact Shelley Fu, extension 33885 (fax 477-0661).

1187. How Should Sovereign Debtors Restructure Their Debts? Fixed Interest Rates, Flexible Interest Rates, or Inflation-Indexed

Andrew Warner
(September 1993)

The presumption that fixed-rate debt is, in general, less risky than flexible-rate debt is historically inaccurate. In some common circumstances, flexible-rate borrowing actually reduces net risk — whether debt service payments are indexed to nominal interest rates or to inflation in industrial countries.

Can developing countries affect the variance of real imports solely by altering the way debt service is paid? The answer, says Warner, is a qualified yes.

The presumption that fixed-rate debt is less risky than flexible-rate debt is historically inaccurate as a general proposition. Using annual data for 1970-90, Warner shows that for many developing countries, flexible-rate borrowing actually reduced net risk — whether debt service payments were indexed to nominal interest rates or to inflation in industrial countries. The covariance terms are larger and more often positive with inflation than with nominal interest rates.

Warner presents a macro-model of the industrial countries to organize thoughts about the comovements of these variables in response to shocks. The terms of trade of developing countries are linked to this model by the assumption that the level of demand in industrial countries positively affects the terms of trade of developing countries.

The worst-case scenario for developing countries is flexible interest rate borrowing combined with monetary contraction in the industrial world, which raises nominal interest rates, reduces inflation, and worsens the terms of trade of developing countries. To the extent that developing countries want to avoid this scenario, borrowing at either fixed interest rates or inflation-indexed rates would be preferable to borrowing at flexible nominal interest rates.

To reduce risk, countries should seek debt contracts in which debt service payments vary positively with their terms of trade. Results indicate that inflation-indexed debt is most desirable on this score.

Warner examines only extreme options, with all debt of one type. The optimal strategy would probably entail all three kinds of borrowing. And the paper does not examine options for efficient international risk-sharing.

This paper — a product of the International Economic Analysis and Prospects Division, International Economics Department — is part of a larger effort in the department to understand the links between the international economic environment and the growth process in developing countries. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Jacquelyn Queen, room S8-216, extension 33740 (35 pages).

1188. Developmentalism, Socialism, and Free Market Reform: Three Decades of Income Distribution in Chile

Mario Marcel and Andrés Solimano
(September 1993)

How do the poorest 40 percent fare under market-oriented reform? Lower income groups suffer when real wages fall and unemployment increases. Then their situation improves as medium-term growth takes off and conditions improve in the labor market. A sort of Kuznets relation can be traced between reform and distribution.

After relatively stable income distribution in the 1960s, and a redistribution toward low-income groups under Allende, income shares declined for the 40 percent of the population (low- and lower-middle income groups) under Pinochet. The top 20 percent benefited most from the income shift away from low-income groups. Under Aylwin, the income share of the bottom 40 percent returned to previous levels, but the share of the top 20 percent remained above its pre-1973 historical average.

Marcel and Solimano show that in the first years of market-oriented reform income for the poor deteriorated, chiefly because of persistent high unemployment and a squeeze on the real minimum wage and other wage categories.

The share of the middle class (the third and fourth quintiles) in national income declined by an average 3 percentage points during 1974-89 — because of cutbacks in public sector employment and steadily declining public sector wages.

Recession with high unemployment especially hurts the poor, and growth does not equalize conditions until it strengthens labor markets. Only when Chile's economy approached full capacity, when wages rose and unemployment dropped to a historic low in the early 1990s, did income distribution for the poor improve. If growth continues and investment grows even faster, as in the past two years, the labor market will remain tighter than in any period in the past 30 years and distribution may improve more significantly.

Is a liberalized economy compatible with social equity? Marcel and Solimano show that initially income distribution deteriorated under reform, chiefly because of macroeconomic crises and subsequent high unemployment and depressed real wages. However, it is not clear that trade liberalization and deregulation are socially regressive, though the market outcomes that dominate in a liberalized economy may generate a failure in the labor market that social policy should correct.

There is more potential for improving the quality of social services today than in the past, but targeting of social services should be designed to prevent the "poverty trap." Targeting and social policies should be designed to encourage personal efforts to escape poverty and to avoid alienating middle-income groups.

This paper — a product of the Transition and Macro-Adjustment Division, Policy Research Department — was prepared for the conference "The Chilean Economy: Policy Lessons and Challenges," organized by the Brookings Institution and held in Washington, DC in April 1993. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Susana Florez, room N11-017, extension 39075 (48 pages).

1189. Can Communist Economies Transform Incrementally? China's Experience

Alan Gelb, Gary Jefferson, and Inderjit Singh
(September 1993)

How does China's approach to reform — incrementally removing constraints on market behavior — square with the opposing "big bang" thesis that partial reform is probably worse than no reform because it leaves economic agents constrained neither by plan nor by markets? Are there rational bases for these widely different approaches to fundamental economic change? If so, what is transferable from China?

Gelb, Jefferson, and Singh try to answer important questions: How important is the phasing of political and economic liberalization and the active (versus passive) role of the state in reform? What lessons can be learned about comprehensive top-down reform as opposed to experimental bottom-up reforms? About fast versus slow liberalization and opening up of the economy? About the need to establish full private property rights at the beginning of reform? About reform's implications for welfare and distribution? Can China's excellent performance be linked to particular reform measures, or does it reflect distinctive initial conditions or social and demographic factors? Is China's performance sustainable without more comprehensive transformation, or does it reflect transient gains that are substantially exhausted? Among lessons China offers are the following:

- Partial reform can succeed in raising productivity in agriculture and industry; industrial productivity has grown very rapidly in the nonstate sector but also in state enterprises.
- A "big bang" is not economically necessary unless justified by the need to address macroeconomic imbalances.
- There may be virtue in a decentralized, "bottom-up" approach to reform.
- Rapid privatization is not necessary for successful reform, but it is important to diversify ownership and encourage the entry of new firms.
- Small-scale privatization and the liberalization of distribution and service sectors are likely to have the fastest payoff in the reform of property rights.
- China's rapid growth momentum and macroeconomic stability cannot be sustained without further reforms, including the reform of banking, taxation, and property rights.

This paper — a product of the Transition and Macro-Adjustment Division, Policy Research Department — is part of two Bank research projects: "Enterprise Behavior and Economic Reforms: A Comparative Study in Central and Eastern Europe," and "Industrial Reform and Productivity in Chinese Enterprises" (RPO 675-38). Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact PRDTM, room N11-065, extension 37471 (39 pages).

1190. The Government's Role in Japanese and Korean Credit Markets: A New Institutional Economics Perspective

Yoon Je Cho and Thomas Hellmann
(September 1993)

Government-led credit allocation in the early stages of Korea's and Japan's economic development helped overcome pervasive market imperfections but increased the risk of entrenched interests and institutional inertia. In both countries, government involvement diminished as competitive capital markets and large conglomerates expanded with economic growth.

Cho and Hellmann discuss the effectiveness of credit policies in the early stages of economic development in Japan and Korea. They examine the importance of institutional arrangements for managing credit policies in the two countries.

They emphasize participatory government intervention, wherein credit policies could be viewed as part of an internal allocation mechanism: Government, banks, and large industrial firms may be said to have formed what the authors call a "government-led internal organization" (GLIO). They examine the theoretical foundations for this view and discuss the implications for the efficiency of credit allocations.

They argue that in early economic development such a participatory approach may have helped overcome pervasive market imperfections. But there were also significant dangers: problems of entrenched interests and institutional inertia.

In both countries, the relative importance of GLIO gradually diminished as competitive capital markets and large conglomerates ("privately led internal organizations") expanded with economic growth.

This paper — a product of the Financial Sector Development Department — is part of a larger World Bank research project on the effectiveness of credit policies in East Asia. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Tomoko Ishibe, room N9-037, extension 37665 (30 pages).

1191. Rent-Sharing in the Multi-Fibre Arrangement: The Case of Mexico

Geoffrey J. Bannister
(September 1993)

Market power affects the distribution of quota rents in the market for Mexico's exports of apparel and textiles to the United States under the Multi-Fibre Arrangement. Although rents from quotas on apparel are probably small in the case of Mexico, a significant share goes to U.S. importers for such product groups as underwear and woven shirts.

Bannister investigates market power and the distribution of rents in the market for Mexico's exports of apparel to the United States under the Multi-Fibre Arrangement (MFA).

Conventional wisdom holds that voluntary export restraints, such as those under the MFA, are superior to other kinds of trade barriers because they allow developing countries to receive the scarcity rents from quantity restrictions. Recently a number of studies have questioned this orthodoxy.

Erzan, Krishna, and Tan (1991), in particular, have pointed out that if market power exists only on the side of the importers, they can acquire some of the fixed rents resulting from quotas, in a form of "rent-sharing."

In Mexico's case, rents resulting from MFA restrictions are probably small, since few of the quotas imposed are binding. And other institutional arrangements — such as production-sharing under HTS 9802 and a liberal quota regime for goods made with U.S. inputs — further mitigate the MFA's restrictiveness.

Mexican exporters probably receive only a fraction of available rents, says Bannister. The welfare implications of MFA restrictions, and of market imperfections that might lead to rent-sharing, are thus not as significant in Mexico as they might be in countries for which conditions are more restrictive. But even for the few rents generated in Mexico's case, some rent-sharing is taking place.

Bannister tests the existence of perfect markets and rent-sharing for six groups of Mexican apparel exports to the United States between 1981 and 1990: sweaters, trousers, men's coats, women's coats, woven shirts, and underwear.

There are consistent differences between the unit value of U.S. production and the Mexico export f.o.b. price of apparel in the U.S. market adjusted for tariffs and transport costs. The adjusted price of Mexican exports is consistently below the price for U.S. production, which suggests that rent-sharing may be taking place.

Using modifications of the methods of Erzan, Krishna, and Tan (1991), Bannister tests alternative explanations for the price difference — differences in the composition of Mexican exports and U.S. production, and differences in the quality of Mexican exports and U.S. products.

The existence of differences in composition between Mexican exports and U.S. production is rejected for three of the six groups. Bannister also controls for the existence of significant quality differences.

The results indicate that rent-sharing may exist for woven shirts and underwear (two of the three groups in the sample that are consistently quota-bound). U.S. importers may receive up to 49 percent of available rents.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in the department to analyze the effects of the Multi-Fibre Arrangement on developing countries. The study was funded by the Bank's Research Support Budget under research project "Licence Prices and Rent Sharing in the Multi-Fibre Arrangement" (RPO 676-69). Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Aban Daruwala, room S7-042, extension 33713 (35 pages).

1192. Effects of Tax Reform on Argentina's Revenues

Jacques Morisset and Alejandro Izquierdo
(September 1993)

In Argentina, changes in tax legislation, tax administration, and individual taxpayers' attitudes toward tax evasion improved tax revenues. Here is a method to measure how much.

Too often, a good tax policy proposal is considered sufficient to improve the tax system — too little consideration is given to weaknesses in tax administration, perhaps because of measurement problems. Analyzing legal and administrative measures and quantitatively evaluating their impact on tax revenues is generally arduous.

Morisset and Izquierdo develop a simple approach to assessing how tax effort affects tax revenues (performance). By "tax effort" they mean changes in tax legislation (except changes in nominal taxes), tax administration, and individual taxpayers' attitudes toward tax evasion. Changes in tax administration include increasing tax penalties, new technologies, and administrative reform.

They measure tax effort as a residual: the variations in tax revenues that cannot be explained by changes in economic variables and tax structures. Using this approach, one can easily identify factors that influence tax revenues over time, and understand the behavior of tax revenues in developing countries, particularly where macroeconomic conditions are volatile.

The authors apply this approach to Argentina; it can as easily be applied to other countries. Their main conclusions in this application:

- The administrative dimension of tax reform is at the heart of Argentina's recent fiscal adjustment. Since 1991, tax effort is an average 80 percent higher than during the preceding (temporary) successful adjustment period (under the Austral Plan).
- An efficient tax administration and an improvement in taxpayer compliance levels appear to precede rather than follow increases in tax revenues.
- Tax effort is influenced significantly by such macrovariables as GDP growth and inflation, as well as by political (in)stability. It is influenced less by such

fiscal variables as alternative sources of financing.

• In Argentina, the sequence of the tax effort was, first, to broaden the potential value-added tax base, and then to reduce tax evasion through higher tax penalties and improvements in the basic functions of tax administration (inspection, audits, tax management, and personnel policy).

This paper — a product of the Country Operations Division, Latin America and the Caribbean, Country Department IV — is part of a larger effort in the department to understand fiscal reforms in Argentina. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Gerald Carter, room I6-020, extension 30603 (23 pages).

1193. The Armenian Labor Market in Transition: Issues and Options

Milan Vodopivec and Wayne Vroman
(September 1993)

Armenia, like all of the economies of the former Soviet Union, faces a host of problems in reforming the labor market: choosing the right pace for reallocating labor, setting up a well-functioning wage determination system, fostering geographic mobility, providing adequate income support to the jobless and the poor, and designing appropriate active policies for the labor market.

Reform of the labor market in the former Soviet Union (FSU) is essential to increase productivity. The transition of the FSU economies to a market economy must involve a massive displacement of workers, and will entail labor shortages for certain skills. A key challenge will be to reallocate labor at the lowest social costs.

Vodopivec and Vroman identify key labor market issues in Armenia, reflecting on the dilemmas and options policymakers face both in Armenia and elsewhere in the FSU.

Armenians are ardent advocates of radical reform and have already made progress in several areas (including successful privatization of land in 1990). But the Armenian transition is taking place in particularly unfavorable circumstances — including a severe energy crisis because of an economic blockade imposed by neighboring Azerbaijan.

In Armenia, current labor policies represent a step in the right direction because they leave primary responsibility for finding a job to the individual. The state's role is simply to provide a social safety net and to create an environment that generates jobs. Tangible progress has been made but the adjustment process has just begun and is hindered by inconsistent labor policies — in some areas too radical and in others smacking of the old interventionism.

Vodopivec and Vroman offer several general policy guidelines:

• Undertake several initiatives, not just one — possibly worker training as well as job search assistance, self-employment grants, and temporary public employment.

• Use some resources to monitor and evaluate interventions, so you find out "what works."

• Coordinate active policy interventions and the interface between active and passive instruments.

• Be prepared to change as the macroeconomic environment changes, and take advantage of the current climate. Under high inflation, for example, consider widening the wedge between wages and various cash and in-kind transfers. When inflation abates, consider paying cash benefits on the basis of prior earnings.

• Above all, be flexible and sensitive to signals and changes in signals. Among policy options, one size does not fit all.

This paper — a product of the Transition and Macro-Adjustment Division, Policy Research Department — is part of a larger effort in the department to investigate how labor markets work during the transition of socialist economies. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Susana Florez, room N11-017, extension 39075 (34 pages).

1194. How Fast Has Chinese Industry Grown?

Tom Rawski
(September 1993)

An upward bias in measures of China's real industrial output in the past decade may substantially alter our perception of the rate and pattern of Chinese industrial growth. The extent of such bias should be investigated and analyzed for possible links with other economic patterns that may be more readily measurable.

Data for recent years indicate an acceleration of Chinese industrial growth, from the annual rates of about 10 percent recorded in the quarter century before economic reform to figures approaching 15 percent in the mid- and late 1980s.

Evaluating the statistics underlying these reports requires an appraisal of how economic reform has affected the ability of China's statistical system to measure economic performance. Erroneous information about the rate and pattern of industrial growth could distort measures of productivity change considered to be central indicators of the effectiveness of Chinese industrial reform.

Rawski describes the statistical materials and procedures used to provide information on the growth of industrial output. He investigates sources of bias in the official statistics to indicate, whenever possible, how these biases affected reported output totals, and to appraise the impact of adjustments to reported output growth on measures of industrial productivity.

The specific consequences of decentralized decisionmaking, growing price flexibility, inflation, dual pricing systems, the emergence of enterprises with few or no ties to the system of state planning, and other emerging features of the industrial system may be unique to China but the broader issues raised are relevant in many countries.

Rawski finds considerable evidence of an upward bias in measures of China's real industrial output in the past decade. The issue is not whether such bias exists but whether its presence substantially alters our perception of the rate and pattern of Chinese industrial growth.

To clarify this issue requires investigating the extent of possible upward bias. This in turn calls for an analysis of possible links between upward bias — which is itself difficult to observe — and other economic patterns that may be more readily measurable.

This paper — a product of the Transition and Macro-Adjustment Division, Policy Research Department — is part of the division's research initiative, Industrial Reforms and Productivity in Chinese Enterprises. The study was funded by the Bank's Research Support Budget under research project "Reforms and Productivity in Chinese Enterprises" (RPO 675-38). Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Emily Khine, room N11-065, extension 37471 (44 pages).

1195. The Enterprise Sector and Emergence of the Polish Fiscal Crisis, 1990-91

Mark Schaffer
(September 1993)

Increasing tax revenues from the enterprise sector alone will not solve Poland's budget crisis. As the state sector shrinks and the private sector grows, the tax net will get increasingly leaky. The budgetary problem could be ameliorated by controlling social security expenses and possibly by abolishing amortization deductions for state-owned enterprises.

Schaffer analyzes the causes of the collapse of profitability in 1991 of the Polish enterprise sector. He explores how it affected the government budget and assesses the forecasts of enterprise sector performance used to prepare the government's 1990 and 1991 budgets.

Schaffer attributes about half of the drop in profitability to the decrease in the inflation rate and the consequent decrease in the inflation bias in profits that results from historical cost accounting.

He attributes most of the rest of the collapse in profitability to higher labor unit costs and higher amortization allowances. When wages are endogenized in a simple model, nearly the entire collapse of profitability is explained by the changes in inflation bias and amortization allowances.

The decrease in the inflation bias and the increase in amortization allowances caused profits, and thus profit taxes, to fall, freeing up cash that could be spent on wages, causing profits and profit taxes to fall even further. This loss in government revenue was offset by increased revenues from wage taxes, which were in turn offset by an increase in wage-indexed government spending, notably on pensions.

As a result of all these changes, the government deficit increased about 4 to 5 percent of GDP — about half of the fiscal swing between 1990 and 1991.

Policy options Schaffer recommends for increasing tax revenues include the following: (1) increasing the turnover tax and introducing the value-added tax that will replace it at rates that maintain the increased level of revenue; (2) increasing the social security tax rate; and (3) maintaining, but not raising, the historical cost-based profit tax, an automatic stabilizer.

An obvious alternative to the profit tax based on historical cost accounting is to redress a 1991 mistake, the indexing of amortization deductions. Schaffer recommends drastically reducing or even abolishing amortization deductions for state-owned enterprises for fixed capital acquired before 1990 (before the start of the transition from socialism). It is odd that these firms are given a tax break on top of the free use of state-owned capital. If anything, they should be paying for the use of the capital.

This paper — a product of the Transition and Macro-Adjustment Division, Policy Research Department — is part of a larger departmental study on Enterprise Behavior and Economic Reform in Central and Eastern Europe. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Emily Khine, room N11-065, extension 37471 (32 pages).

1196. Corporate Tax Structure and Production

Jeffrey Bernstein and Anwar Shah
(September 1993)

Investment tax credits, investment allowances, and accelerated capital consumption allowances are more cost-effective in promoting investment than more general tax incentives such as corporate tax rate reductions.

Bernstein and Shah provide an empirical framework for assessing the effects of tax policy on an array of producer decisions about output supplies and input demands in Mexico, Pakistan, and Turkey. They specify and estimate a dynamic production structure model with imperfect competition for selected industries in these countries.

The model results suggest that tax policy affected production and investment and further that selective tax incentives such as investment tax credits, investment allowances, and accelerated capital consumption (depreciation) allowances are more cost-effective at promoting investment than more general tax incentives such as corporate tax rate reductions. The long-run cost-effectiveness of these incentives — except corporate tax rate reductions, which proved cost-ineffective in all cases — varies by country. In Turkey, investment allowances and capital consumption allowances were cost-effective. In Mexico, neither investment tax credits nor accelerated capital consumption allowances were cost-effective. In contrast, in Pakistan, both investment tax credits and accelerated capital consumption allowances were cost-effective. In the intermediate run, defined as tax policy impact after one year, only the investment allowances and accelerated capital consumption allowances available to Turkish industries proved cost-effective.

To make selective tax incentives more effective, investment tax credits must be refundable and carrying forward investment and depreciation allowances must be permitted. If stimulating investment expenditure is the sole objective of tax policy, reducing the corporate tax rate is not a cost-effective instrument to achieve this objective.

This paper — a product of the Public Economics Division, Policy Research Department — is part of a larger effort in the department to evaluate public policies for private sector development in developing countries. The study was funded by the Bank's Research Support Budget under research project "An Evaluation of Tax Incentives for Industrial and Technological Development" (RPO 675-10). Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Carlina Jones, room N10-063, extension 37699 (61 pages).

1197. Determinants of Inflation among Franc Zone Countries in Africa

Bruno Boccara and Shantayanan Devarajan
(September 1993)

Despite belonging to a monetary union with a common currency and pooled foreign reserves, the countries of Africa's franc

zone (CFA) experience substantially different inflation rates, especially in the short run. This is partly explained by the fact that for primary exporters in general, and for CFA zone members in particular, the volatility of commodity prices implies a high variance in government revenues.

Despite belonging to a monetary union with a common currency and pooled foreign reserves, the countries of Africa's franc zone (CFA) experience substantially different inflation rates, especially in the short run.

Boccara and Devarajan develop a model of inflation differentials for the franc zone countries based on behavioral differences in fiscal policy responses to fluctuations in the price of the main export commodity. The model is based on the fact that for primary exporters in general, and for CFA zone members in particular, the volatility of commodity prices implies a high variance in government revenues.

The model identifies two effects: a monetary effect (commodity booms imply a surge in foreign reserves which, if unsterilized, is inflationary) and a fiscal effect (higher government revenues are, to varying degrees, accompanied by a marked increase in the level of spending, which is again inflationary).

The fiscal relationship is the key behavioral equation of the model, as the other relationships are essentially derived from accounting identities.

Boccara and Devarajan empirically test the model for Côte d'Ivoire. It tracks quite well the inflationary cycle that Côte d'Ivoire experienced after the boom in coffee prices in 1975–76.

Since the countries are in a monetary union, if some countries have expansionary fiscal policy (and thus inflation) the others must take a more contractionary fiscal stance. One issue for future research is what determines whether a member country has the freedom to follow an expansionary fiscal policy or whether it must contract because other members have already expanded. A discussion of potential "games" played by countries in a monetary union may shed light on these issues.

This paper — a product of the Public Economics Division, Policy Research Department — is part of a larger effort in the department to study structural adjustment in Sub-Saharan Africa. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Carlina Jones, room N10-063, extension 37699 (September 1993, 45 pages).